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=> d his

     (FILE 'HOME' ENTERED AT 13:48:20 ON 15 MAY 2003)

     FILE 'CAPLUS' ENTERED AT 13:48:29 ON 15 MAY 2003
L1          340 S (WAVEGUID? AND (EPOXY OR EPOXIDE OR EPOXIE OR EPHE))
L2            0 S (WAVEGUID? AND (EPHE3150 OR (EPHE(2A)3150)))
L3            0 S (WAVEGUID? AND (EPHE))
L4           26 S (WAVEGUID? AND ((EPOXY OR EPOXIDE OR EPOXIE OR EPHE)(10A)CORE
L5          275 S (WAVEGUID? AND ((EPOXY OR EPOXIDE OR EPOXIE OR EPHE)(10A)(RES
L6         5864 S ((EXPOS? OR IRRADIAT?)(P)((EPOXY OR EPOXIDE OR EPOXIE OR EPHE
L7            9 S (WAVEGUID? AND L6)
L8         2885 S ((EXPOS? OR IRRADIAT?)(10A)(EPOXY OR EPOXIDE OR EPOXIE OR EPH
L9           10 S (WAVEGUID? AND L8)
L10           4 S L9 NOT L7

=> log y
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   182.14     182.35

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                   -25.39     -25.39

STN INTERNATIONAL LOGOFF AT 13:53:57 ON 15 MAY 2003
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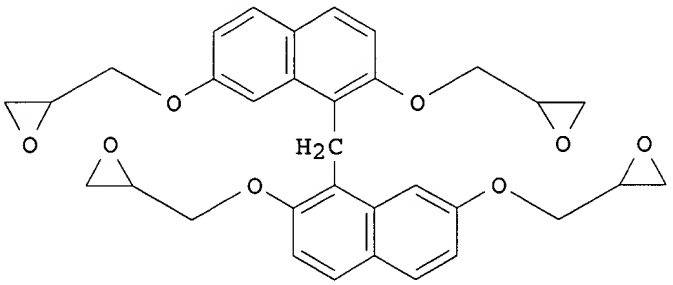
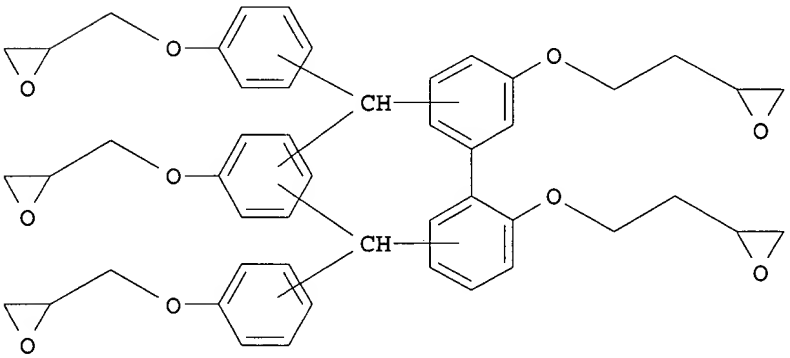
7 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2003 ACS
AN 1997:619182 CAPLUS
DN 127:308463
TI Manufacture of optical modules with epoxy resins
IN Ueno, Takumi; Amo, Satoru; Akaboshi, Haruo; Eguchi, Kuniyuki
PA Hitachi, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G02B006-42
ICS C08L063-04; G02B006-30
CC 42-2 (Coatings, Inks, and Related Products)
Section cross-reference(s): 73
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 09243870	A2	19970919	JP 1996-57189	19960314
PRAI JP 1996-57189		19960314		

GI



I



II

AB The optical modules are manufd. by adjusting the optical axes of optical parts such as optical elements, photodetectors, **waveguide** paths, and optical fibers; forming optical paths by precoating spaces between the optical parts with light-transmissible resins; covering the optical paths with photocurable **resin** compns. contg. bisphenol-type **epoxy resins** (**epoxy** equiv. 180-500 g/equiv), **epoxy resins** (**epoxy** equiv. 160-250 g/equiv) selected from novolak-type **epoxy resins**, I, and II, inorg. fillers, and photochem. acid generators; **irradiating** the photocurable resins with light; and heating the resins. The optical modules can be sealed by heating at .ltoreq.100.degree. by using the **epoxy resin** compns. O-cresol novolak **epoxy resin** (**epoxy** equiv. 189 g/equiv) 10, bisphenol A-type **epoxy resin** (**epoxy** equiv. 475 g/equiv) 10, diphenyliodonium triflate 1, Ph3P 0.15, Sb2O3 0.4, epoxysilane (coupler) 0.15, montanic acid ester 0.1, and fused SiO2 (filler) 85 parts were mixed

to give a photocurable **epoxy resin** compn.
Semiconductor laser diodes, photodiodes, **waveguide** paths, and optical fibers were fixed on a substrate by adjusting the optical axes, potted with a polyimide soln. obtained from 2,2-bis(3,4-dicarboxyphenyl)hexafluoropropane dianhydride and 2,2-bis(trifluoromethyl)-4,4'-diaminodiphenyl, the substrate was fixed on a mold, covered with the photocurable **epoxy resin** compn., **irradiated** by light, and heated at 80.degree. for 20 min to give a resin-sealed optical module with high strength.

ST optical module sealing bisphenol epoxy resin; novolak epoxy resin sealing optical module

IT Alkaline earth hydroxides
Alkaline earth oxides
Group IIIA element oxides
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(filler; optical modules manuf. with photocurable epoxy resin sealants)

IT Fillers
(inorg.; optical modules sealing with photocurable epoxy resin sealants)

IT Sealing compositions
(optical modules manuf. with photocurable epoxy resin sealants)

IT Optical fibers
Optical **waveguides**
(optical modules sealing with photocurable epoxy resin sealants)

IT Epoxy resins, uses
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)
(optical modules sealing with photocurable epoxy resin sealants)

IT Epoxy resins, uses
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)
(phenolic, novolak, o-cresolic; optical modules sealing with photocurable epoxy resin sealants)

IT Epoxy resins, uses
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)
(phenolic, novolak; optical modules sealing with photocurable epoxy resin sealants)

IT Polyimides, uses
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(potting compn.; optical modules sealing with photocurable epoxy resin sealants)

IT 471-34-1, Calcium carbonate, uses 1309-42-8, Magnesium hydroxide 7631-86-9, Silicon oxide, uses 21645-51-2, Aluminum hydroxide, uses
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(filler; optical modules manuf. with photocurable epoxy resin sealants)

IT 25068-38-6, Bisphenol A epoxy resin 154445-49-5 197165-51-8
RL: DEV (Device component use); POF (Polymer in formulation); PRP (Properties); USES (Uses)
(optical modules sealing with photocurable epoxy resin sealants)

IT 160509-79-5
RL: MOA (Modifier or additive use); USES (Uses)
(photochem. acid generator; 3.optical modules sealing with photocurable epoxy resin sealants)

IT 66003-76-7, Diphenyliodonium triflate 69432-40-2 84563-54-2, Bis(4-tert-butylphenyl)iodonium triflate 85342-62-7 160509-78-4
RL: MOA (Modifier or additive use); USES (Uses)
(photochem. acid generator; optical modules sealing with photocurable epoxy resin sealants)

IT 129197-26-8P 129219-42-7P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(potting compn.; optical modules sealing with photocurable epoxy resin sealants)

10 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS
AN 1997:619181 CAPLUS
DN 127:294422
TI Manufacture of optical modules with epoxy resins or (meth)acrylic polymers
IN Ueno, Takumi; Amo, Satoru; Eguchi, Kuniyuki
PA Hitachi, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G02B006-42
ICS C08G059-22; G02B006-13; G02B006-30
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 09243869	A2	19970919	JP 1996-57188	19960314
PRAI JP 1996-57188		19960314		

AB The manufg. process consists of detecting and memorizing relative positions of optical elements on base substrates by a light scanning controller, immersing the base substrates carrying optical parts in photocurable solns. contg. **epoxy** compds. and photoacid generators, and **irradiating** the solns. by laser light for curing the solns. and forming optical paths between the optical elements. Alternatively, the photocurable solns. contain (meth)acrylic monomers and photoradical generators. The **waveguide** path-forming process using laser scanning photocuring gives optical modules with easy adjustment of the optical axes. Semiconductor laser diodes, photodetectors, and optical fibers were fixed on a substrate, the positional informations of the elements were input into a semiconductor laser controller, the substrate was immersed in a photocurable soln. contg. 30 parts 2,2-bis(4-glycidyloxyphenyl)hexafluoropropane and 1 part diphenyliodonium triflate, and Ar laser light and the substrate were moved up and down based on the positional informations for optical bonding of the elements to give an optical module.
ST optical element joining photocurable epoxy resin; methacrylic resin laser optical module manuf; acrylic resin laser optical module manuf; radical generator acrylic resin optical module
IT Fluoropolymers, uses
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(acrylic; optical modules manuf. with photocurable epoxy resins or (meth)acrylic polymers)
IT Fluoropolymers, uses
Fluoropolymers, uses
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(epoxy; optical modules manuf. with photocurable epoxy resins or (meth)acrylic polymers)
IT Epoxy resins, uses
Epoxy resins, uses
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(fluorine-contg.; optical modules manuf. with photocurable epoxy resins or (meth)acrylic polymers)
IT Optical **waveguides**
(optical modules manuf. with photocurable epoxy resins or (meth)acrylic polymers)
IT Optical fibers
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(optical modules manuf. with photocurable epoxy resins or (meth)acrylic polymers)
IT Crosslinking agents
(photochem.; optical modules manuf. with photocurable epoxy resins or (meth)acrylic polymers)
IT Polymerization catalysts
(radical; optical modules manuf. with photocurable epoxy resins or

(meth)acrylic polymers)

IT 25068-38-6P, Ep 828 30603-97-5P 33938-33-9P 197165-49-4P 197165-53-0P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(diphenyliodonium triflate-crosslinked; optical modules manuf. with photocurable epoxy resins or (meth)acrylic polymers)

IT 57592-67-3P, Hexanediol diacrylate homopolymer 137515-27-6P 153893-38-0P 197165-59-6P 197165-62-1P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(optical modules manuf. with photocurable epoxy resins or (meth)acrylic polymers)

IT 66003-76-7, Diphenyliodonium triflate 69432-40-2, 2-(4-Methoxynaphthyl)-4,6-(trichloromethyl)-1,3,5-triazine 160509-79-5, 2-(3,4,5-Trimethoxystyryl)-4,6-(trichloromethyl)-1,3,5-triazine 197165-55-2
RL: MOA (Modifier or additive use); USES (Uses)
(photoacid generator; optical modules manuf. with photocurable epoxy resins or (meth)acrylic polymers)

IT 37808-19-8, tert-Butylanthraquinone
RL: CAT (Catalyst use); USES (Uses)
(radical generator; optical modules manuf. with photocurable epoxy resins or (meth)acrylic polymers)